

Attorney Docket No. 42390.P6147

CLEAN VERSION OF ALL PENDING CLAIMS:

1. (Amended Twice) A chemical-mechanical polishing slurry for a copper based metal layer on a semiconductor substrate, the chemical-mechanical polishing slurry comprising:

a liquid;

cerium ions as an oxidizer in the liquid, the cerium ions being in a quantity equal to the inclusion of at least 0.02 molar ammonium cerium nitrate in the liquid;

an abrasive in the liquid, the liquid, the cerium ions and the abrasive together having a first pH value;

a pH increasing glycine substance in the liquid that increases the first pH value to a second pH value above 1.5 and below 3.0; and

an anti-oxidizing BTA agent.

2. The slurry of claim 1 comprising cerium ions in quantity equal to the inclusion of between 0.05 molar and 0.1 molar of ammonium cerium nitrate.

3. The slurry of claim 1 comprising between 1 percent and 30 percent abrasive by weight.

4. The slurry of claim 1 wherein the abrasive is silica.

5. (Amended Once) The slurry of claim 1 wherein the second pH value is at least 2.5.

6. (Canceled)

7. The slurry of claim 1 which is environmentally green.

8. The slurry of claim 1 further comprising a complexing agent.

9. The slurry of claim 8 wherein the complexing agent is glycine.

10-11. (Canceled)

12. The slurry of claim 11 comprising between 0.00200 molar and 0.00500 molar BTA.

13. The slurry of claim 1 comprising cerium ions in quantity equal to between 0.02 molar and 0.1 molar ammonium cerium nitrate and BTA comprising between 0.00200 and 0.00500 molar BTA.

14. The slurry of claim 13 wherein the second pH value is at least 2.5.

26. (Amended Once) A chemical-mechanical polishing slurry for polishing a copper based metal, the chemical-mechanical polishing slurry comprising:

a liquid;

an oxidizer comprising cerium ions in a quantity equal to the inclusion of at least 0.02 molar ammonium cerium nitrate in the liquid;

an abrasive in the liquid;

benzotriazole (BTA) in the liquid to inhibit corrosion; and

a glycine complexing agent in the liquid and to increase a pH value of the slurry to above

1.5 and below 3.0.

27. The slurry of claim 26, comprising between 0.00100 molar and 0.00500 molar benzotriazole (BTA).

28. The slurry of claim 26, comprising between 1 and 3 percent glycine by weight.

29. The slurry of claim 26, wherein the liquid is deionized liquid water.